



Institute of Physics of the Polish Academy of Sciences

Scholarship for a PhD Student



Job ID: #JOB57/2021

Job Description

Job Title: PhD student – scholarship holder

Job Summary:

Application of machine learning to recognition of suspensions/nanoliquids. Laser speckle images/movies will be classified by deep neural networks.

Job Description:

The job holder will be a member of the Group of Optical Characterization of Micro- and Nanoobjects. The Group is interested in diverse nanoscale phenomena (thermodynamic, transport, optical, electrical, plasmonic), which can be observed in evaporating/condensing microdroplets of pure liquids, various suspensions and in microaggregates. We typically levitate micro-objects in electrodynamic traps, which imposes a spherical symmetry on their evolution. We also experiment, in collaboration with a group from Marseille, with free-falling droplets and droplets kept in acoustic traps. We focus on experiments, which we then model analytically and numerically.

In the project, in which the candidate is to participate, ultimately, we want to learn how to recognize suspensions in the form of microdroplets. It would open vistas to optical-numerical recognition of e.g. pathogens residing in microdroplets of aerosols.

As our research equipment is largely in-lab-built and experiments are computer-controlled, we expect the job candidate to have a working knowledge of mechanics and electronics and programming skills (Matlab essential, C++/Cuda very welcome). At least an operational knowledge of designing and training neural networks in Matlab is strictly required.

Due to the international character of the Group, a good command of English is necessary. The ability to work in a team and to prepare publications is of course indispensable. Initiative in searching for new research topics and activity in applying for research funds is highly recommended.

To be employed, the candidate must be an active student of the PhD school in which the Institute of Physics participates.

Main research field: Physics

Sub Research Field: Soft-matter physics

Career Stage: experimentalist holding an MSc in physics or related sciences

Research Profile ([details](#)): First Stage Researcher (R1)

Type of Contract: Fixed term (42 months)

Status: Full-time

Salary: grant funding of **5000** PLN per month, before subtracting obligatory employer and employee social security contributions (~15%).

Contact

More information can be obtained from

Daniel Jakubczyk (e-mail: jakub@ifpan.edu.pl)
<http://www.ifpan.edu.pl/ON-2/on22/staff/jakub.html>
Please make contact.

Application details

Application deadline: 31.12.2021 Later applications will not be considered.

Required materials:

- Curriculum Vitae
- List of publications
- Motivation letter
- Consent to process your personal data
- Documents confirming PhD student status

All materials should be submitted in electronic form to the address:
rekrutacja@ifpan.edu.pl with Job ID in the subject.

Information clause – scholarship competition

Pursuant to Article 13 paragraphs 1 and 2 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (General Data Protection Regulation) Official Journal of the European Union, L 119, 4 May 2016, page 1, as amended, hereinafter referred to as “GDPR”, we hereby inform as follows:

1. The Institute of Physics of the Polish Academy of Sciences with its registered office in Warsaw, Al. Lotników 32/46, represented by its Director, is the Controller, i.e. an entity deciding about how your personal data will be used. You may contact the Controller using one of the contact forms available on the website: tel. (22) 116-2111, e-mail: director@ifpan.edu.pl
2. The Director of the Institute of Physics of the Polish Academy of Sciences has appointed the Data Protection Officer (DPO), whom you may contact in matters relating to your personal data, by sending an email to the following address: iodo@ifpan.edu.pl
3. Your personal data will be processed in connection with your participation in the scholarship competition and if you win the competition, in connection with receiving the scholarship – on the basis of your consent – Article 6 paragraph 1 item a GDPR.
4. Your personal data will be processed for a period of 6 months after the end of the scholarship competition and in the case of receiving the scholarship – for a period resulting from legal and tax regulations;
5. Your personal data will be made available to other entities that can finance and settle the scholarship granted and entities authorized under provisions of law. Your data will only be accessed by people authorized by the Controller;
6. Provision of your personal data is mandatory; in the event of failure to do so, you will not be able to participate in the scholarship competition;
7. You have the right to access your data, the right to rectify it and limit processing thereof;
8. You have the right to lodge a complaint to the President of the Office for Personal Data Protection, if you consider that the processing of your personal data violates provisions of the General Data Protection Regulation.

Consent to processing:

I hereby consent to the processing of my personal data contained in the application/request form by the Institute of Physics of the Polish Academy of Sciences to conduct the scholarship competition and in the case of being granted the scholarship, to pay and settle it. I provide my personal data voluntarily and I declare that it is accurate. I have read the content of the information clause.

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Date and signature